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United States Government

Department of Energy

Rocky Flats Office

DUE  
DATE

## memorandum

OCT 9 1 42 PM '91

ROCKY FLATS PLANT  
CORRESPONDENCE CONTROL

OCT 08 1991

ERD:PMP:8543

Section D Categorical Exclusion for Geologic and Ecologic Characterization Within Wetlands or Floodplains at Rocky Flats Plant (RFO/CX025-91)

Ralph Lightner, Director Southwestern Area Programs Division, EM-45

Enclosed is a draft categorical exclusion (CX) for proposed work to characterize the geology and ecology of the Rocky Flats Plant. This portion of the characterization work may occur within wetlands or floodplains on the plant site. The studies outlined in the CX will be conducted to provide data in support of cleanup activities to be performed under RCRA and CERCLA. The work is scheduled to begin immediately and continue through December 1993.

Please contact Tricia Powell (FTS 345-3260) to discuss the planned activity.

*David P. Simonson*  
David P. Simonson  
Assistant Manager  
for Environmental Management

Attachment

cc w/attachment:  
A. Rampertaap, EM-453  
L. Lawson, EM-431  
S. Nesta, EG&G/RF

CORRESPONDENCE CONTROL  
TRAFFICReviewed for Addressee  
Corres. Control RFP

10991 Ci

DATE BY

Ref Ltr. #

SECTION D DETERMINATION  
CATEGORICAL EXCLUSION (CX) DETERMINATION RFO/CX025-91

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**Proposed Action:** Field Activities for Geologic and Ecologic Characterization Within Floodplains or Wetlands

**Location:** Rocky Flats Plant, Golden, CO

**Proposed by:** U.S. Department of Energy, Rocky Flats Office

**Description of the Proposed Action:**

Rocky Flats Plant proposes to carry out field activities to gather data to characterize the geology and ecology of the plant site within wetlands and floodplains in support of the remediation of RCRA and CERCLA sites. This work may be performed both within and outside the boundaries of operable units 1, 2, 5 and 6. The characterization work would include 1) establishing new surface water and sediment sampling stations and collecting samples, 2) collecting soil and soil gas samples, and 3) drilling new water wells and collecting groundwater samples, and 4) drilling to obtain geologic cores.

To establish new surface water and sediment sampling stations, stakes would be driven into the ground at the edge of a stream or water body. The stakes would be used as reference points so that samples can be taken from the same locations periodically. Water and sediment samples would be taken by driving or walking to the sample site and collecting up to a few pounds of sediment or a few quarts of water.

Soil and soil gas samples may be collected within floodplains from grids 38, 51, 52, 57, 81, 96, 109 and 115 shown on Figure 2 using three different methods. The first soil sampling method uses a Colorado Department of Health sampler to remove two to three tablespoons of soil from the ground surface anywhere within the grid. The second soil sampling method that would be used is backhoe excavation of soil pits nine feet long, five feet wide and four feet deep to gather samples from the soil profile within each grid. The sample pits will be refilled with the excavated earth after sampling. Sampling soil gas (Figures 3 and 8) is to be accomplished by using a hand auger to drill a one inch diameter hole 18 to 24 inches deep. A probe is inserted into the hole to sample any gases that escape from the soil.

Drilling new water wells and core holes would involve driving a truck mounted drilling rig to the locations shown on Figures 1, 3, 6, 7, 8, 9, 10, 11, 13 and 14 to drill holes four to six inches in diameter. Drilling activities that may be within the 100 year floodplain or wetlands are highlighted by heavy arrows on the figures. As a general principle, drilling in wetlands would be avoided because of the added difficulties of setting up a drill rig and drilling in saturated soils, but it may be necessary to locate one or more holes within a wetland. As holes are drilled, drill cuttings would be brought to the surface and shoveled into drums for analysis of contaminants and appropriate disposal. Drilling activity will result in the trampling of vegetation for up to 200 square feet around the drill hole.

All of these activities are scheduled to occur between May 1991 and December 1993. They will not introduce or cause the inadvertent or uncontrolled movement of hazardous substances or non-native organisms, or adversely affect environmentally sensitive areas listed in the guidelines. Because of the nature of the proposed activities, no adverse impacts are expected to wetlands or floodplains.

Categorical Exclusion to be applied:

3. Site characterization and environmental monitoring, including siting, construction, or operation of ~~characterization and monitoring devices, under CERCLA and RCRA, if these activities would not~~ introduce or cause the inadvertent or uncontrolled movement of hazardous substances as defined in section 101(33) of CERCLA, or non-native organisms, and would not adversely affect environmentally sensitive areas as defined in paragraph 4 (DOE NEPA Guidelines, 55FR37178).

DOE NEPA REGULATIONS SECTION D DETERMINATION  
CATEGORICAL EXCLUSION DETERMINATION - RFO/CX 025-91

Geologic and Ecologic Characterization Within Floodplains and Wetlands at Rocky  
Flats Plant

I have determined that the proposed action meets the requirements for a categorical exclusion as defined in the Section D of the DOE NEPA Guidelines. Therefore, I approve the categorical exclusion of the proposed action from further NEPA review and documentation.

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

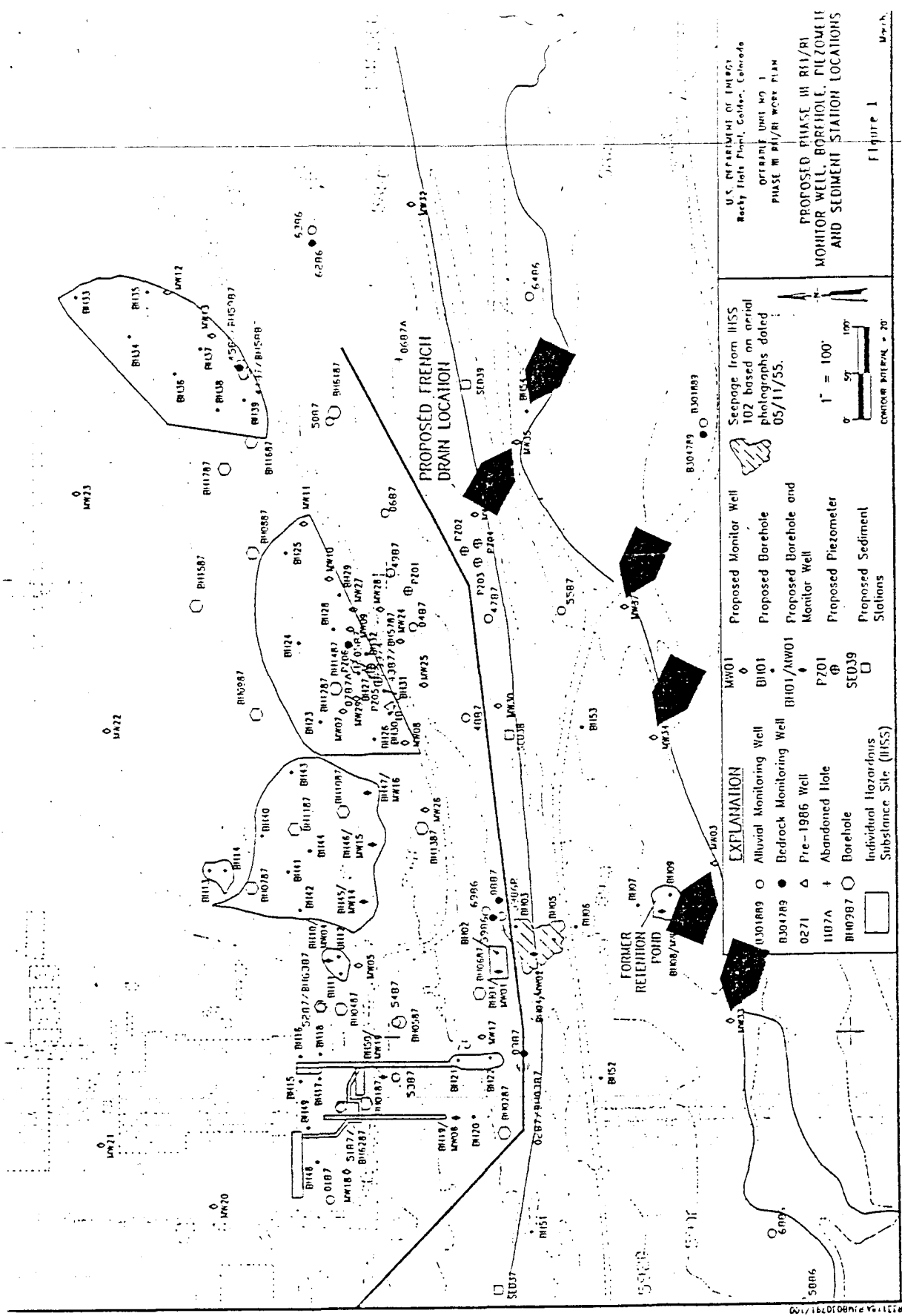
Leo Duffy  
Title: Director, Environmental  
Restoration & Waste Mgmt.

EH-25 has reviewed this determination and has no objection.

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

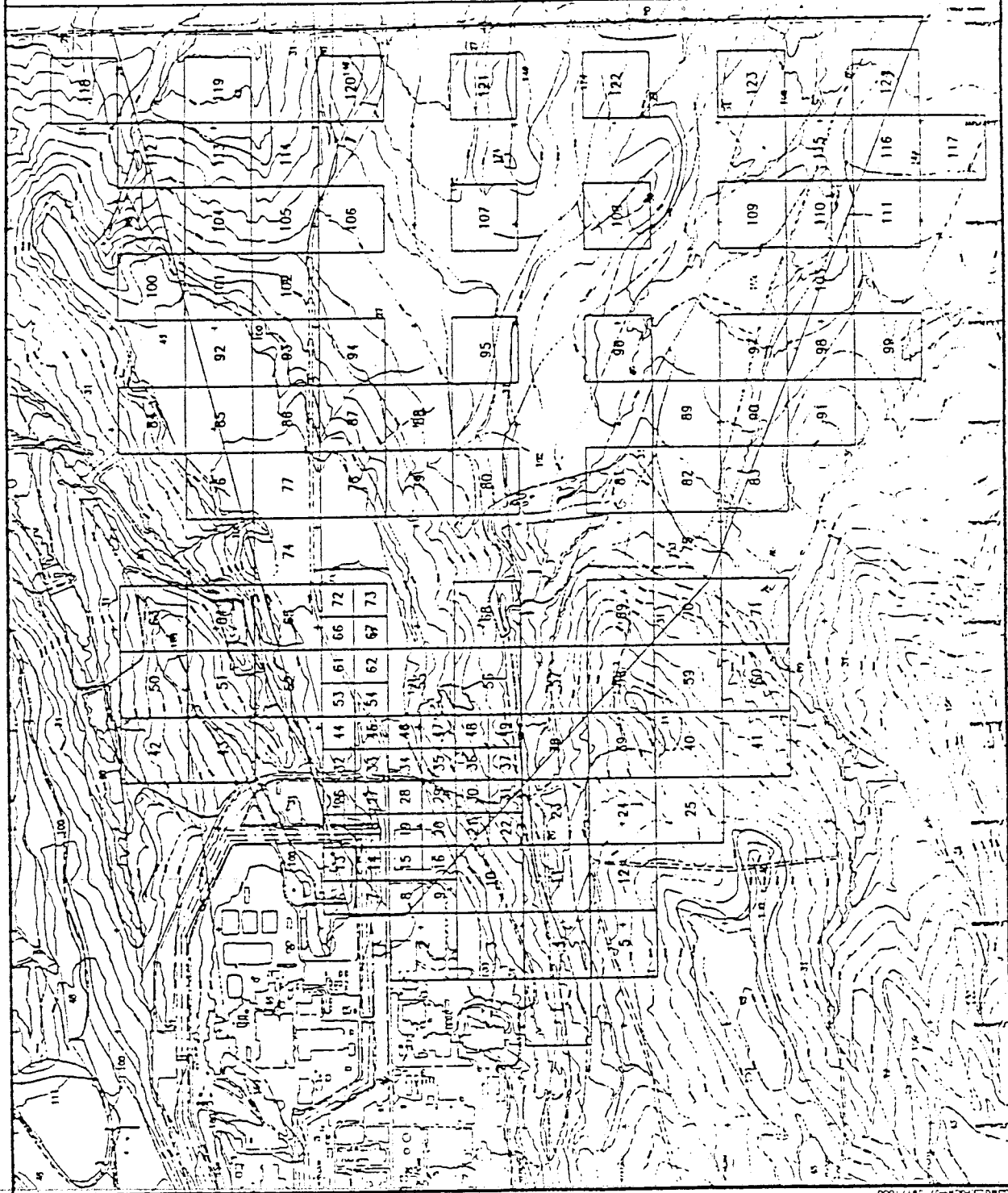
Carol M. Borgstrom  
Title: Director, Office of NEPA  
Oversight



U.S. DEPARTMENT OF ENERGY  
Rocky Flats Plant, Golden, Colorado  
OFFICIAL UNIT NO. 1  
PHASE III RI/RII WORK PLAN

PROPOSED PHASE III RI/RII  
MONITOR WELL, BOREHOLE, PIEZOMETER  
AND SEDIMENT STATION LOCATIONS

Figure 1



# EXPLANATION



ESTIMATED MAXIMUM EXTENT OF SURFACE WATER COVERAGE TWO MILES UPSTREAM OF CONFLUENCE



10 ACRE SAMPLING PLOT LOCATIONS



10 ACRE SAMPLING PLOT LOCATIONS



25 ACRE SAMPLING PLOT LOCATIONS



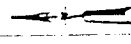
96 ACRE TYPE BOUNDARY AND MARKER

SOURCE: U.S. DEPARTMENT OF AGRICULTURE, 1960

SOC. TYPE NUMBER

SERIES

- 27 DENSE WITH
- 28 DENSE WITH
- 29 DENSE WITH
- 30 DENSE WITH
- 31 DENSE WITH
- 32 DENSE WITH
- 33 DENSE WITH
- 34 DENSE WITH
- 35 DENSE WITH
- 36 DENSE WITH
- 37 DENSE WITH
- 38 DENSE WITH
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- 122 DENSE WITH
- 123 DENSE WITH



1" = 1000'

0 500 1000

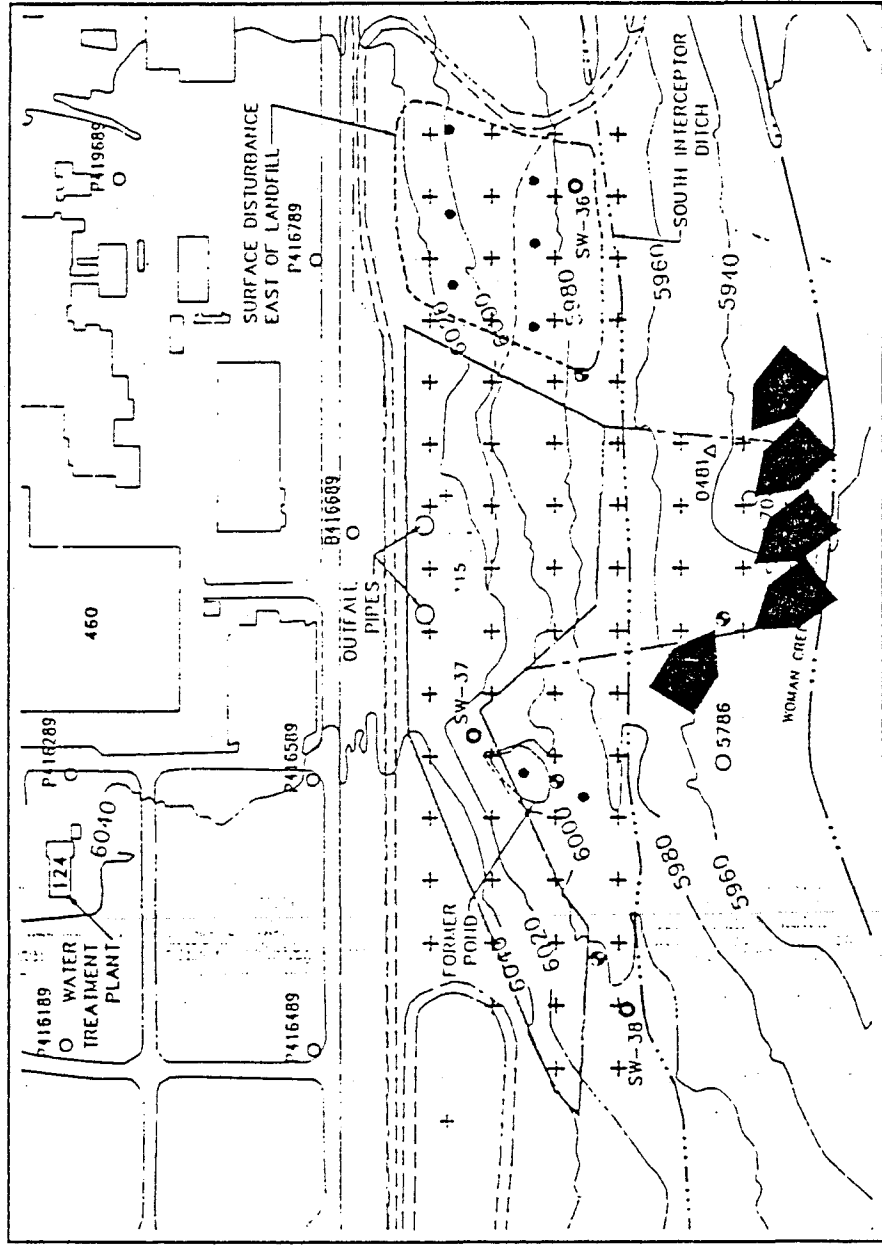
CONTOUR INTERVAL = 20'

U.S. DEPARTMENT OF ENERGY  
Rocky Flats Plant, Golden, Colorado

OPERATIONAL UNIT NO. 2  
PHASE B RPT/RI WORK PLAN (ILLUSTRATION)

PROPOSED SURFICIAL SOIL SAMPLING  
PLOT IDENTIFICATION NUMBERS

Figure 2



0 100 200  
SCALE: 1" = 200'

### EXPLANATION

- INDIVIDUAL HAZARDOUS SUBSTANCE SITE
- EXISTING SURFACE WATER SAMPLING LOCAT
- EXISTING ALLUVIAL GROUNDWATER MONITORING
- PRE-1986 MONITORING WELL
- INTERMITTENT STREAM
- DIRT ROAD
- ROCKY FLATS BLDG. NO. [124]
- PRELIMINARY EXTENT OF THE LANDFILL BASED ON A SITE RECONNAISSANCE
- PROPOSED WELL LOCATION
- PROPOSED SOIL BORING LOCATION
- PROPOSED SOIL GAS SAMPLES
- \*ALL PROPOSED LOCATIONS ARE APPROXIMATE

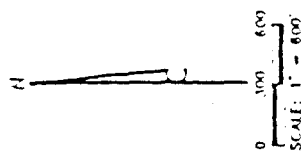
U.S. DEPARTMENT OF ENERGY  
Rocky Flats Plant, Golden, Colorado

OFFICIAL: UNIT 5  
PHASE 1 RI/RI WORK PLAN

PROPOSED SAMPLING AND  
WELL LOCATIONS  
IHSS 115  
ORIGINAL LANDFILL

Figure 3  
REV. AUGUST  
MARCH 1

60617



(SEE FIGURE 7-2 (2 OF 2))

OPERABLE UNIT 5  
PHASE I RFI/RI WORK PLAN

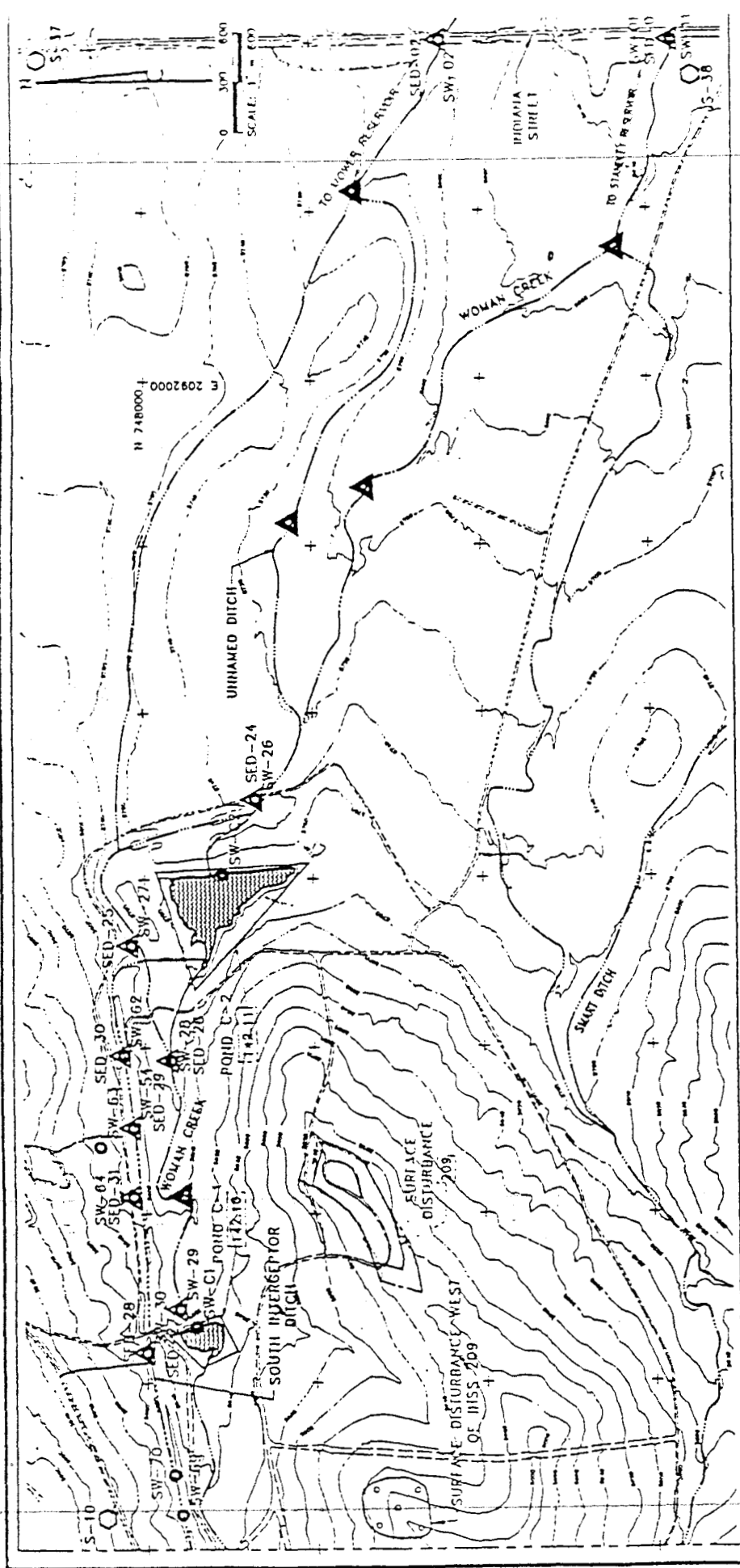
SEDIMENT & SURFACE WATER  
SAMPLING SITES & AIR MONITORING  
STATIONS ALONG WOMAH CREEK AND  
THE SOUTH INTERCEPT DITCH

APR 11 1999

Figure 4

EXPLANATION	
INDIVIDUAL HAZARDOUS SUBSTANCE SITE	▲
EXISTING SURFACE WATER LOCATION	◼
EXISTING SEDIMENT SAMPLING LOCATION	○
INTERMITTENT STREAM	-----
DIRT ROAD	==
PRELIMINARY EXTENSION OF THE SURFACE DISTURBANCE BASED ON A RECONNAISSANCE	----
PROPOSED RADIOACTIVE AERIAL SURVEILLING PROGRAM LOCATION	○
PROPOSED SURFACE WATER LOCATION	◼
PROPOSED GRASSHOPPER SURVEY FOR ASH PIT AREA	----
1970 GRASSHOPPER SURVEY BOUNDARY AROUND OLD LAUNDRIAL	-----

7061



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Rocky Flats Plant, Golden, Colorado

OPERABLE UNIT 5  
PHASE 1 RI/RI WORK PLAN

SEDIMENT & SURFACE WATER  
SAMPLING SITES & AIR MONITORING  
STATIONS ALONG WOMAN CREEK AT  
THE SOUTH INTERCEPTOR DITCH

REV. 10/81  
MARCH 19

Figure 5

**EXISTING RADIOACTIVE AMBIENT AIR  
MONITORING PROGRAM LOCATION**

**PROPOSED SEDIMENT  
SAMPLE LOCATION**

**EXPLANATION**

INDIVIDUAL HAZARDOUS SUBSTANCE SITE S-23

EXISTING SURFACE WATER LOCATION

EXISTING SEDIMENT SAMPLING LOCATION

INTERMITTENT STREAM

DIRT ROAD

PRELIMINARY EXTENSION OF THE SURFACE  
DISTURBANCE BASED ON A RECONNAISSANCE

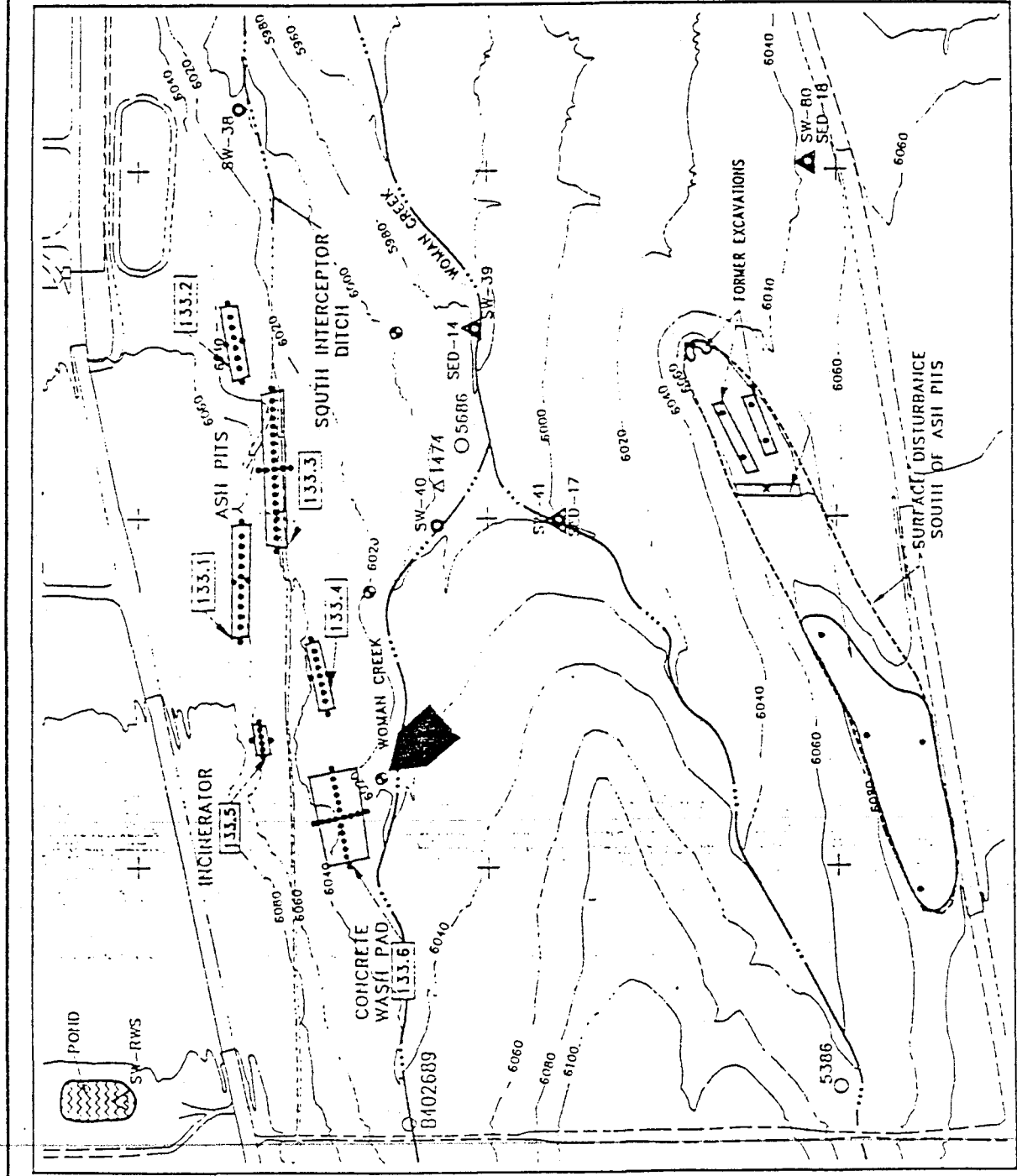
ORIGINAL STREAM CHANNEL HEAR  
POUD C-2

MATCHLINE  
(SEE FIGURE 7-2 (1 OF 2))

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# EXPLANATION

- INDIVIDUAL HAZARDOUS SUBSTANCE OR
- EXISTING SURFACE WATER SAMPLING LOCATION
- EXISTING ALLUVIAL GROUNDWATER MONITORING WELL
- EXISTING SEDIMENT SAMPLING LOCATION
- PRE-1986 MONITORING WELL
- PROPOSED SOIL BORING LOCATION
- PROPOSED WELL LOCATION
- PROPOSED SURFACE SAMPLING LOCATION
- INTERMITTENT STREAM
- DIRT ROAD

\*ALL PROPOSED LOCATIONS ARE APPROXIMATE

U.S. DEPARTMENT OF ENERGY  
Rocky Flats Plant, Golden, Colorado

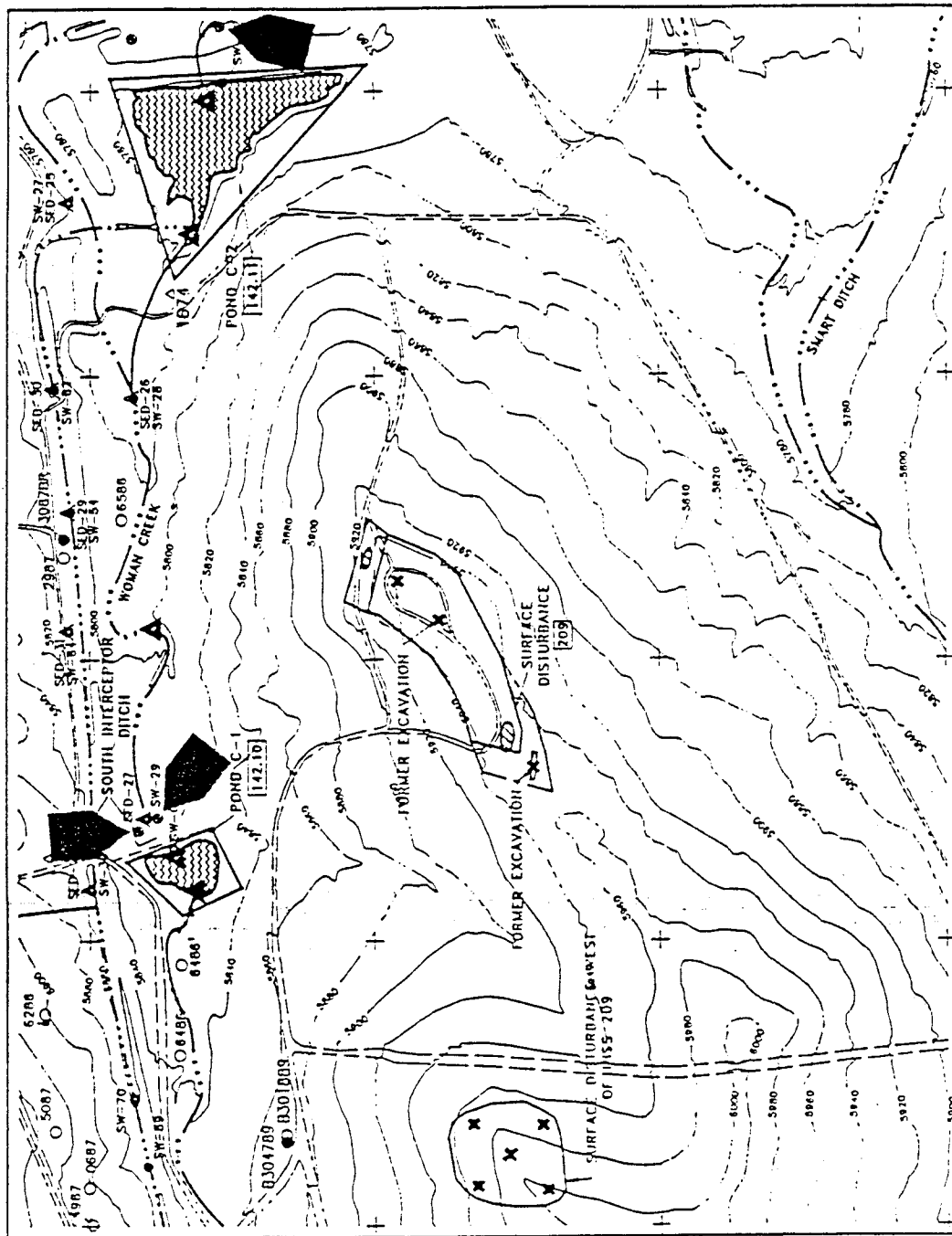
OPERABLE UNIT 5  
PHASE 1 RI/RI WORK PLAN

PROPOSED SAMPLING & WELL LOCATIONS,  
ASH PITS 1-4, INCINERATOR,  
CONCRETE WASH PAD (HSS 133.1-6),  
AND ADDITIONAL SURFACE DISTURBANCE

Figure 6  
REV. AUGUST 19  
MARCH 1991

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# EXPLANATION

- INDIVIDUAL LOCATIONS DISTANCE SITE
- EXISTING SURFACE WATER SAMPLING LOCATION
- EXISTING ALLUVIAL CREEK/STREAM MONITORING WELL
- EXISTING SURFACE WATER SAMPLING LOCATION
- EXISTING RETROCK CREEK/STREAM MONITORING WELL
- POSSIBLE EXPOSURE
- INTERMITTENT STREAM
- DRY ROAD
- PRELIMINARY EXTENSION OF THE SURFACE DISTURBANCE BASED ON A SITE RECONNAISSANCE
- ORIGINAL STREAM CHANNEL NEAR POND C-2
- PROPOSED SURFACE SAMPLING LOCATION
- PROPOSED WELL LOCATION
- PROPOSED STREAM SAMPLING LOCATION
- 3 OTHER LOCATIONS IN FACILITY WOULD BE SELECTED AT RANDOM
- ALL PROPOSED LOCATIONS ARE APPROPRIATE

U.S. DEPARTMENT OF ENERGY  
Rocky Flats Plant, Golden, Colorado  
OPERABLE UNIT 5  
PHASE 1 RI/RI WORK PLAN

PROPOSED SAMPLING & WELL LOCATION  
HSS 142.10-11, POND C-1 & C-2  
HSS 209 SURFACE DISTURBANCE, & 11  
SURFACE DISTURBANCE WEST OF

HSS 209

Figure 7

REV. JUNE 80  
MARCH

ENVIRONMENTAL HAZARDOUS SUBSTANCE SITE  
EXISTING SURFACE WATER SAMPLING LOCATION  
EXISTING ALLUVAL GROUNDWATER MONITORING  
EXISTING SEDIMENT SAMPLING LOCATION  
EXISTING BEDROCK GROUNDWATER MONITORING

----- DIRTY ROAD

— — — — —

948 1  
ROCKY MOUNTAIN

☐ PROPOSED SOLID GAS SURVEY LOCATION

PROPOSED NEW LOCATION

\* PROPOSED SUPPLY ARE SAME 'L' BIC LOCATION \*

## PROPOSED IMPROVING AND SURFACE SAMPLING

LOCAL MEDIA

U.S. DEPARTMENT OF ENERGY  
Rocky Flats Plant, Golden, Colorado

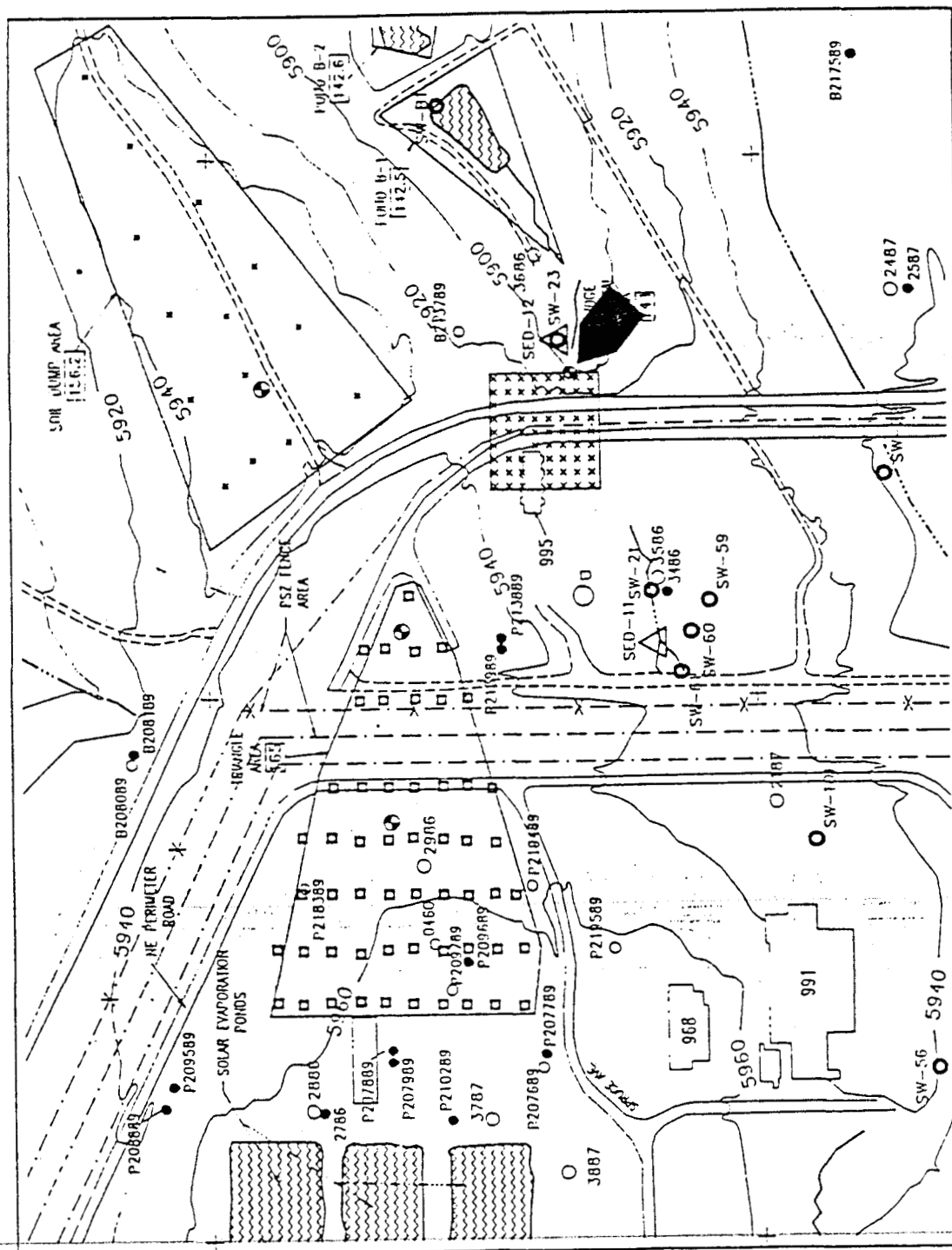
OPERABLE UNIT 5  
PHASE 1 RE/RE WORK PLAN

### PROPOSED SAMPLING AND WELL LOCATIONS

USS 141 SLUDGE DISPOSAL  
USS 165 TRIANGLE AREA

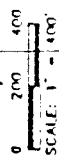
MISS 156.2 SOIL DUMP' AREA

Figure 8 April



# DRAFT

FOR COMMENTS AND  
DISCUSSION ONLY



## EXPLANATION

- PROPOSED HAZARDOUS SUBSTANCE SITE
- EXISTING SURFACE WATER SAMPLING LOCATION
- EXISTING ALLUVIAL GROUNDWATER MONITORING WELL
- EXISTING SEDIMENT SAMPLING LOCATION
- EXISTING BEDROCK GROUNDWATER MONITORING WELL
- EXISTING PRE-1986 WELL
- INTERMITTENT STREAM
- DIRT ROAD
- PROPOSED WELL LOCATION<sup>1</sup>
- PROPOSED SEDIMENT SAMPLE LOCATION<sup>1</sup>
- PROPOSED BEDROCK WELL LOCATIONS FOR  
SITE-WIDE GEOLOGICAL CHARACTERIZATION  
PROGRAM<sup>1</sup> These wells are shown  
in Figure 11.

<sup>1</sup> ALL PROPOSED LOCATIONS ARE APPROXIMATE

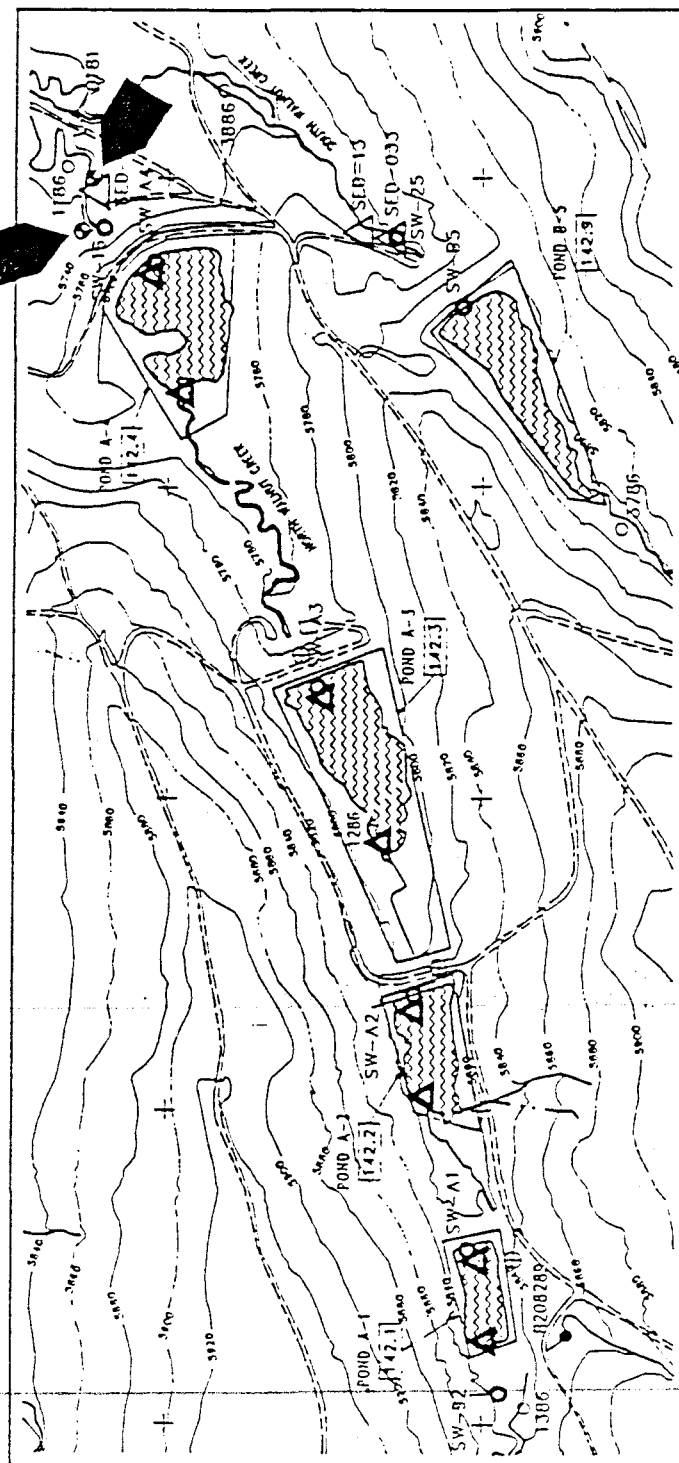
U.S. DEPARTMENT OF ENERGY  
Rocky Flats Plant, Golden, Colorado

OPERABLE UNIT 6  
PHASE 1 RI/RI WORK PLAN

PROPOSED SAMPLING & WELL LOCATIONS  
HSSs 142.1-4  
A-SERIES DETENTION PONDS  
ALONG NORTH WALNUT CREEK

Figure 9

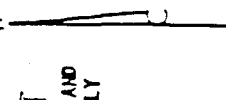
APRIL 1991



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**EXPLANATION**

- (H) INDIVIDUAL HAZARDOUS SUBSTANCE SITE
- SW-1 O EXISTING SURFACE WATER SAMPLING LOCATION
- 5786 O EXISTING ALLUVIAL GROUNDWATER MONITORING WELL LOCATION
- SED-17 Δ EXISTING SEDIMENT SAMPLING LOCATION
- INTERMITTENT STREAM
- DIRT ROAD
- [RM] ROCKY FLATS RIDGE NO
- PROPOSED WELL LOCATION<sup>1</sup>
- PROPOSED BORING AND SURFACE SAMPLE<sup>1</sup> LOCATION
- Δ PROPOSED SEDIMENT SAMPLE LOCATION<sup>1,2</sup>
- ⊕ PROPOSED BEDROCK WELL LOCATIONS FOR SITE-WIDE GEOLOGICAL CHARACTERIZATION PROGRAM<sup>1</sup>
- <sup>1</sup> ALL PROPOSED LOCATIONS ARE APPROXIMATE
- <sup>2</sup> THREE OTHER LOCATIONS IN EACH POND WILL BE SELECTED AT RANDOM

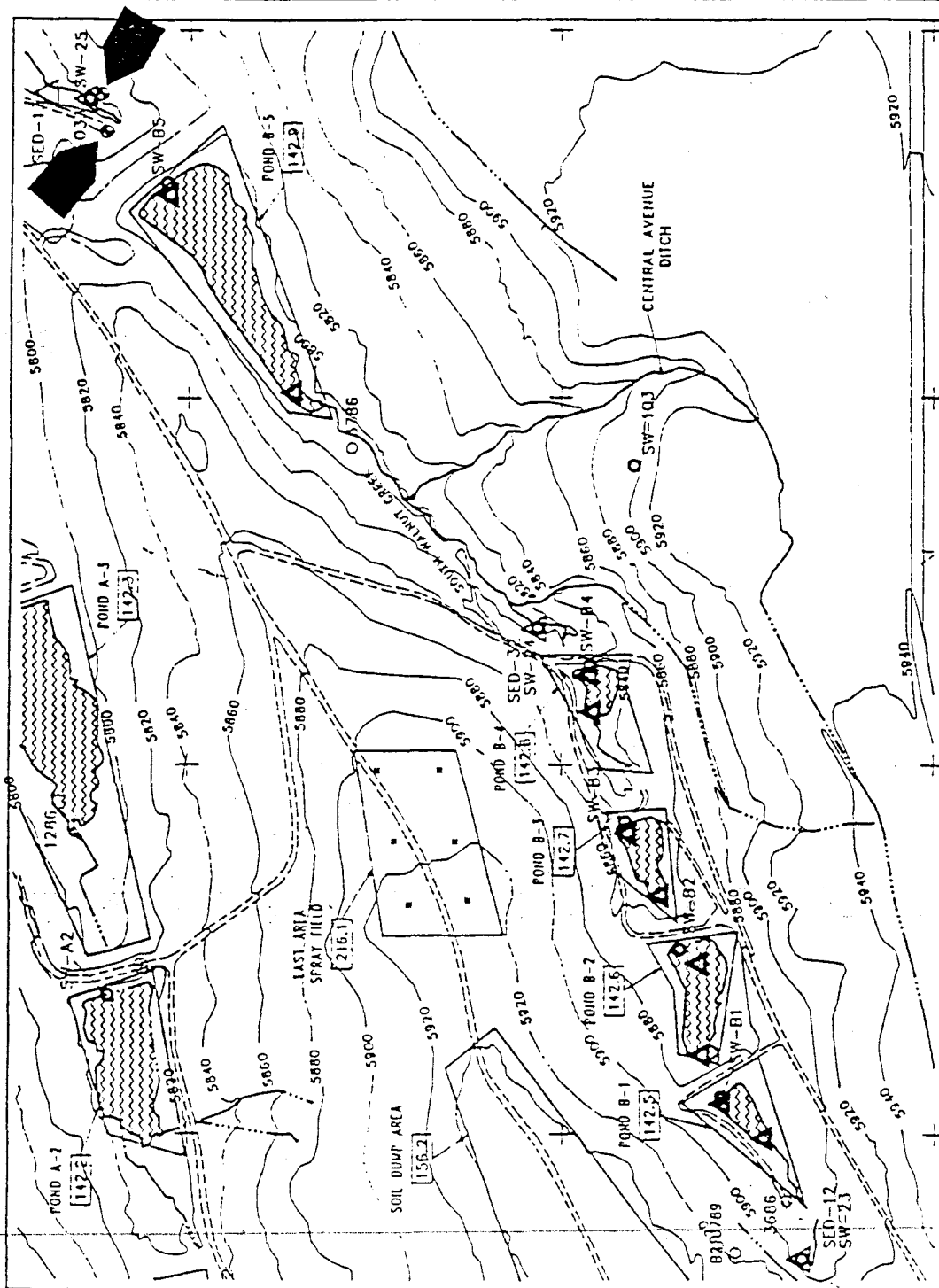
U.S. DEPARTMENT OF ENERGY  
Rocky Flats Plant, Golden, Colorado

OPERABLE UNIT 6  
PHASE 1 RFI/RI WORK PLAN

PROPOSED SAMPLING & WELL LOCATIONS  
B-SERIES DETENTION PONDS  
ALONG SOUTH WATNUT CREEK  
IHSS 216.1 EAST AREA SPRAY FIELD

Figure 10

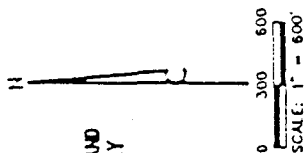
7-2











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**EXPLANATION**

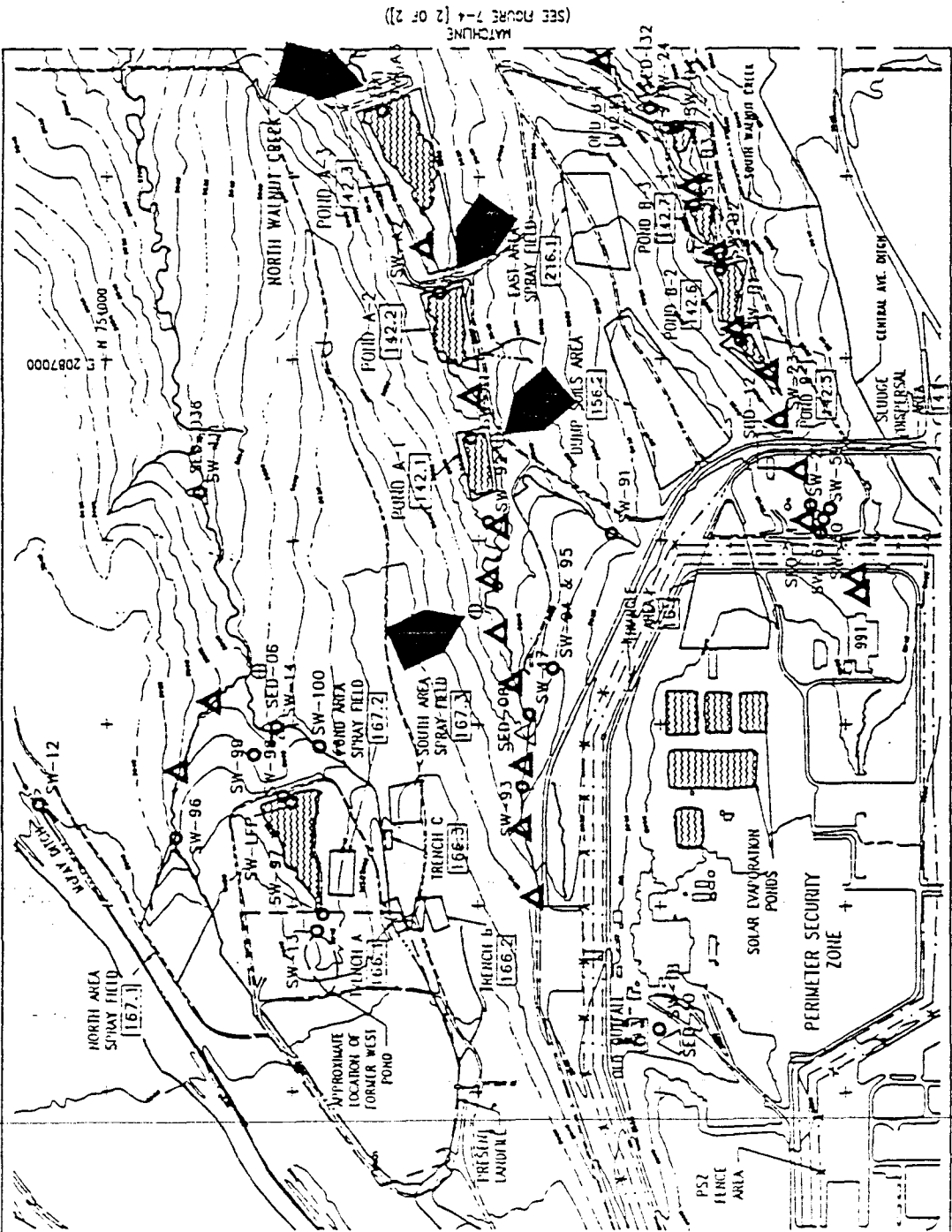
-  INDIVIDUAL HAZARDOUS SUBSTANCE SITE (HSS) BY OPERABLE UNIT 6
-  HSS REFERENCE NUMBER
-  EXISTING SURFACE WATER SAMPLING LOCATION
-  EXISTING SEDIMENT SAMPLE LOCATION
-  PERIMETER SECURITY ZONE
-  DIRT ROAD
-  PROPOSED LOCATIONS FOR SEDIMENT SAMPLES<sup>1</sup>
-  PROPOSED BEDROCK WELL LOCATIONS FOR SITE-WIDE GEOLOGICAL CHARACTERIZATION PROGRAM<sup>1</sup>

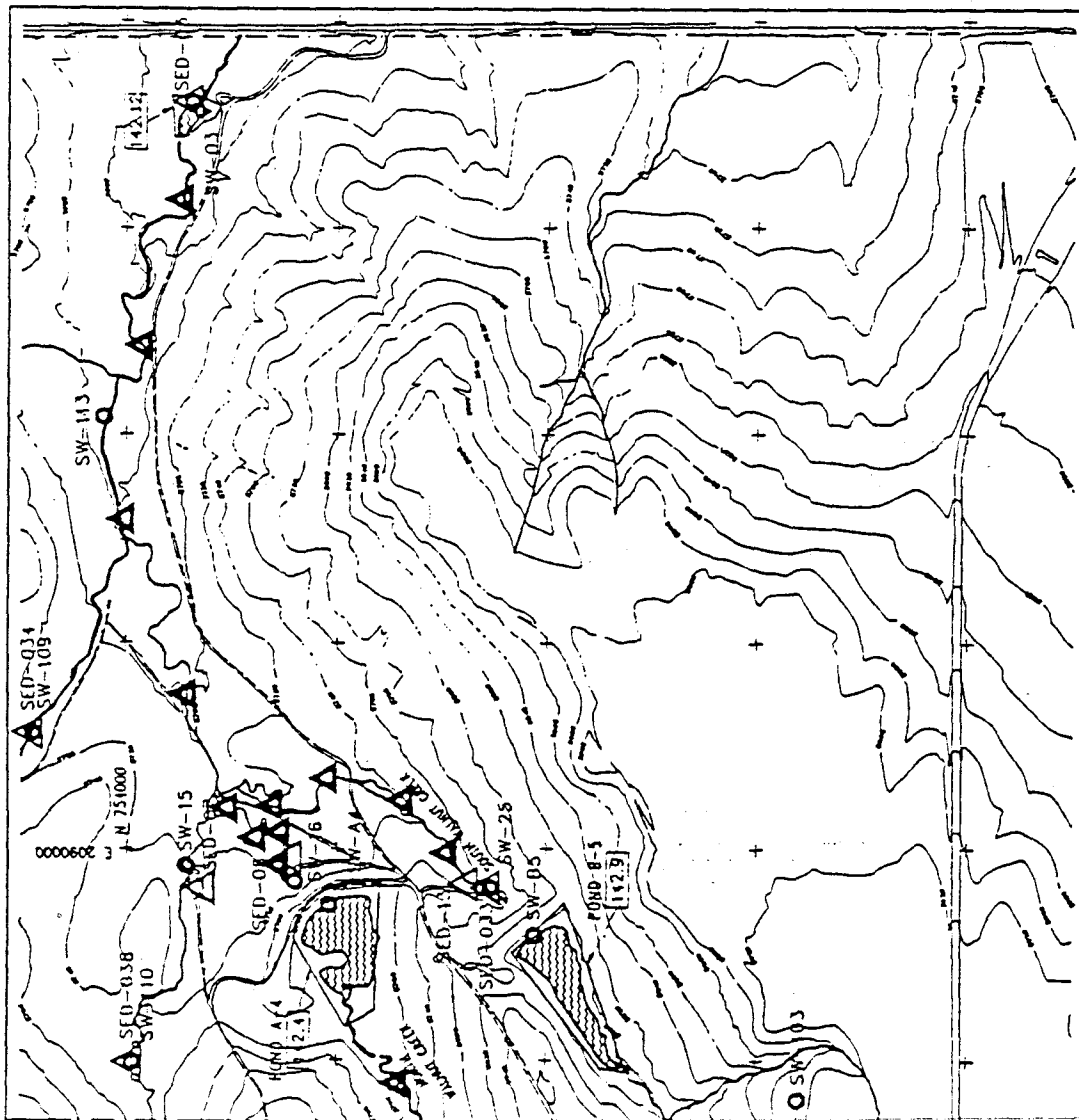
<sup>1</sup> ALL PROPOSED LOCATIONS ARE APPROXIMATE

U.S. DEPARTMENT OF ENERGY  
Rocky Flats Plant, Golden, Colorado

OPERABLE UNIT 6  
PHASE I RFI/RI WORK PLAN  
SEDIMENT SAMPLING SITES AND  
SITE-WIDE PROGRAM BEDROCK WELLS  
ON NORTH AND SOUTH  
WALNUT CREEKS

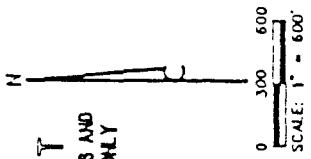
Figure 11





MATCHLINE  
(SEE FIGURE 7-4 [2 OF 2])

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**EXPLANATION**

- INDIVIDUAL HAZARDOUS SUBSTANCE SITE (BISSES) IN OPERABLE UNIT 6
- BISS REFERENCE NUMBER
- EXISTING SURFACE WATER SAMPLING LOCATION
- EXISTING SEDIMENT SAMPLE LOCATION
- DIRT ROAD
- PROPOSED LOCATIONS FOR SEDIMENT SAMPLES<sup>1</sup>

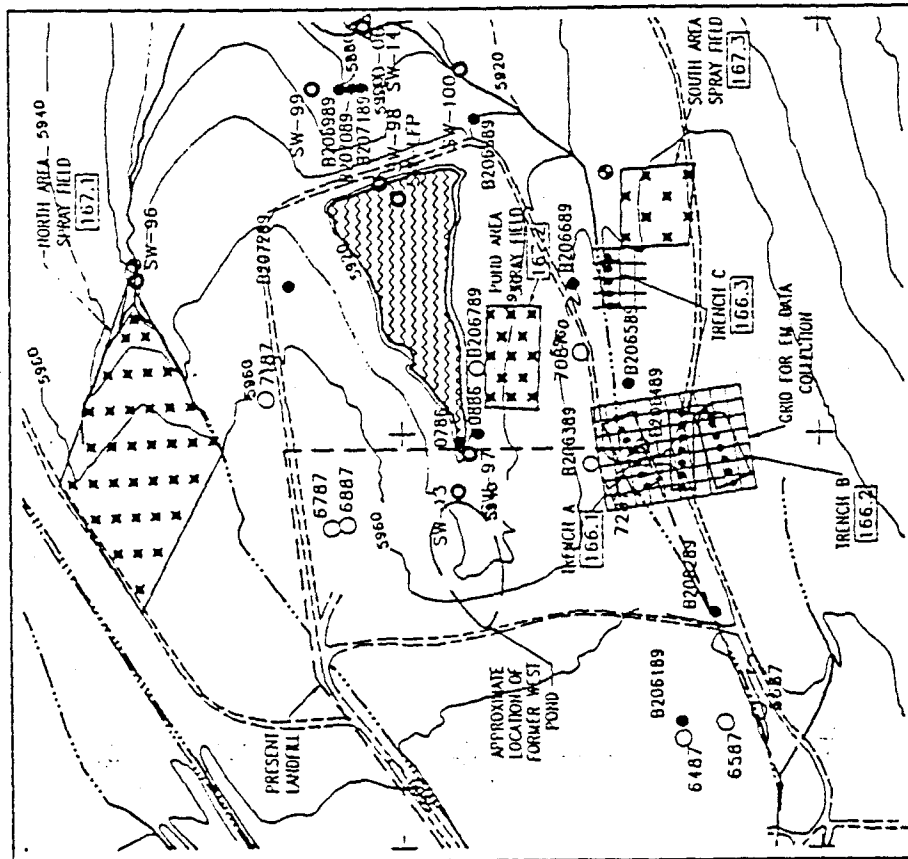
<sup>1</sup> ALL PROPOSED LOCATIONS ARE APPROXIMATE

U.S. DEPARTMENT OF ENERGY  
Rocky Flats Plant, Golden, Colorado

OPERABLE UNIT 6  
PHASE I RI/MI WORK PLAN

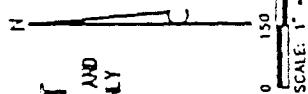
SEDIMENT SAMPLING SITES AND  
SITE-WIDE PROGRAM BEDROCK WELLS  
ON NORTH AND SOUTH  
WALNUT CREEKS

Figure 12 APRIL 1991



Preliminary information from the U. S. Army Corps of Engineers shows no flood plain for the drainageways on this map.

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# **EXPLANATION**

- (115) INDIVIDUAL HAZARDOUS SUBSTANCE SITE
- SW-1 ○ EXISTING SURFACE WATER SAMPLING LOCATION
- 5786 ○ EXISTING ALUMINUM GROUNDWATER MONITORING WELL
- SED-17 △ EXISTING SEDIMENT SAMPLING LOCATION
- 3087 ● EXISTING BEDROCK GROUNDWATER MONITORING WELL
- INTERMITTENT STREAM
- ===== DIRT ROAD
- PROPOSED SOIL BORING LOCATION<sup>1</sup>
- PROPOSED WELL LOCATION<sup>1</sup>
- ✕ PROPOSED BORING AND SURFACE SAMPLE LOCATION<sup>1</sup>
- ||||| PROPOSED ELECTROMAGNETIC SURVEY LINE LOCATION<sup>1</sup>

<sup>1</sup>ALL PROPOSED LOCATIONS ARE APPROXIMATE

U.S. DEPARTMENT OF ENERGY  
Rocky Flats Plant, Golden, Colorado  
OPERABLE UNIT 6  
PHASE 1 RI/RI WORK PLAN  
PROPOSED SAMPLING & WELL LOCATIONS  
IISSs 166.1-3, TRENCHES A, B, & C  
IISSs 167.1-3 NORTH AREA,  
POND AREA AND SOUTH AREA

Figure 13

APRIL 1991



